

# **RDBMS Integration Approach**

*April 8, 1998*

## *Spatial Data Base Module*





# *Overview*

- Background
- Design Considerations
- Approach
- Design of SDBM Layers
- RDBMSs Selected
- Summary





# ***Background***

---

- Current Version of SDBM uses flat files
- To Satisfy JMTK Functional Requirements in SRS
  - RDBMS Required
  - Also Supports
    - Ad Hoc Query
    - Additional Product Types





# ***Design Considerations***

---

- DBMS Facilitates Evolving Scalability
- Platform Independent
- Licensing Issues
- Facilitates COTS Insertion
- Storage/Retrieval Performance Requirement
  - Storage of Meta Data
  - Storage of Indexes





# ***Approach***

---

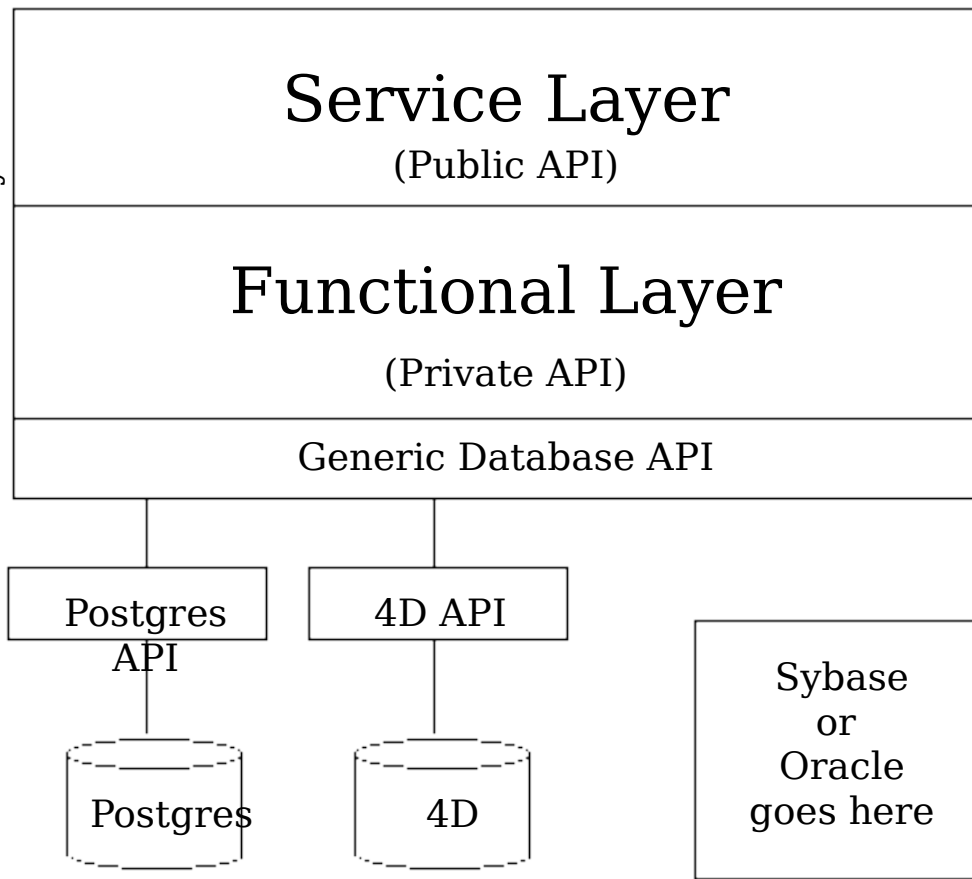
- Researched Free ware RDBMS
  - LEAP, POSTGRES, BEAGLE, etc. (i.e., 20+)
- Development of a SW Layered Approach
  - Facilitates COTS Insertion
  - Platform Independence





# *Design of SDBM Layers*

Currently in SDBM





# ***RDBMSs Selected***

---

- Postgres - UNIX Platform
- 4th Dimension - Windows NT





# *Postgres*

---

- Object Oriented
- Built in functionality support spatial queries
  - Built-in datatypes such as “Box” and “Point”
  - Built-in functions on these datatypes
- More SQL-92 features implemented than Sybase
- Active user community
  - Timely responses to mailing list posts
  - Scheduled updates to the software being made







# ***Postgres Cont'd***

---

- Many interfaces provided with Postgres
  - Java
  - C, C++
  - Perl - will allow easy integration of MIDB DB Utilities (Some utilities already ported)
- Licensing - Distribute freely without charging for Postgres
- Size Requirements
  - 8 Mg Ram
  - 45 Mg HD Space (includes src and binaries)





# ***4th Dimension***

---

- Most powerful desktop DBMS on the market
- Extensions written in C will allow implementation of Postgres features
- 3rd party extensions provide SQL support
- Minimal additional system requirements
  - 12 Mg RAM
  - 5 Mg HD Space
- Free distribution of database engine in compiled applications





# *Summary*

---

- Approach Satisfies
  - Functional Requirements
  - Scalability Requirements
  - COTS Insertion
- Platform Independent

